

In the claims:

Sub A7

1. A method for defining a virtual domain in an electronic messaging system, comprising:
 - 5 defining a virtual domain node corresponding to a real domain name server in a hierarchically organized directory; and
 - associating a plurality of virtual domain attributes to the virtual domain node.
2. A method as recited in claim 1, wherein the plurality of virtual domain attributes include a designated virtual domain administrator, a designated virtual domain postmaster, a state of the virtual domain, and a set of allowed services for the virtual domain.
3. A method as recited in claim 2, wherein the state of the virtual domain node is selected from the list comprising: active, inactive (or suspended), and deleted.
4. A method as recited in claim 3, wherein the hierarchically organized directory is a tree based hierarchy.
- 20 5. A method as recited in claim 4, wherein the tree based hierarchy is a standard based directory information tree (DIT) that includes a plurality of directory entries each of which is associated with a higher level (parent) directory entry.
6. A method as recited in claim 5, wherein the directory takes the form of a
25 segmented name space.

Sub A7

7. A method as recited in claim 6, wherein the segmented name space includes a segmented name associated with a user that is segmented in such a way that the user is uniquely identified by a unique user name at a first hierarchical level and an associated domain name at a higher hierarchical level.

5

8. A method as recited in claim 7, wherein during a user name search operation, the user name is initially resolved at the higher hierarchical level and subsequently at the first hierarchical level such that in a multi-domain environment the search operation is performed as if the user name was part of a flat name space.

10

9. A method as recited in claim 8 further comprising:
defining a routing table based upon the segmented name space, wherein the routing table is used by a transfer agent to direct an appropriately addressed email message to a receiving user in the virtual domain.

15

10. A method as recited in claim 9, wherein the segmented name space is based upon the most direct path from the user name to the highest connected hierarchical level in the directory.

20

11. A method as recited in claim 1, wherein the electronic messaging system is an email messaging system.

25

12. A method as recited in claim 1, wherein the electronic messaging system is a voicemail messaging system.

Sub A7

13. A method as recited in claim 10, wherein the standard based directory is an LDAP based directory.

14. A computer-readable medium containing programming instructions for defining a virtual domain in an electronic messaging system, the computer-readable medium comprising computer program code devices configured to cause a computer to execute the operations of:

defining a virtual domain node corresponding to a real (non-virtual) domain in a hierarchically organized directory; and

10 10 associating a plurality of virtual domain attributes to the virtual domain node.

15. A computer-readable medium containing programming instructions for defining a virtual domain in an electronic messaging system as recited in claim 10, wherein the plurality of virtual domain attributes include a designated virtual domain administrator, a designated virtual domain postmaster, a state of the virtual domain, and a set of allowed services for the virtual domain and wherein the state of the virtual domain node is selected from the list comprising: active, inactive (or suspended), and deleted.

20 16. A computer-readable medium containing programming instructions for defining a virtual domain in an electronic messaging system as recited in claim 15, the computer-readable medium further comprising computer program code devices configured to cause a computer to execute the operations of:

Sub A7

defining a routing table based upon the segmented name space, wherein the routing table is used by a transfer agent to direct an appropriately addressed email message to a receiving user in the virtual domain.

5 17. A computer-readable medium containing programming instructions for defining a virtual domain in an electronic messaging system as recited in claim 16, the computer-readable medium further comprising computer program code devices configured to cause a computer to execute the operations of:

initially resolving a user name during a user name search operation at the higher

10 hierarchical level and subsequently at the first hierarchical level such that in a multi-domain environment the search operation is performed as if the user name was part of a flat name space.

15 18. An electronic messaging system having a main host computer for transferring an incoming message between a sending subscriber and a receiving subscriber having an associated unique user name, comprising:

a messaging server coupled to the host computer arranged to receive the incoming message from the sending subscriber and arranged to forward the message to the receiving subscriber based upon the receiving subscriber's user name;

20 a hierarchically organized directory coupled to the messaging server arranged to define a virtual domain node corresponding to a real (non-virtual) domain having associated with it a plurality of virtual domain attributes to the virtual domain node.

25 19. An electronic messaging system as recited in claim 18, wherein the plurality of virtual domain attributes include a designated virtual domain administrator, a

SuVA7

designated virtual domain postmaster, a state of the virtual domain, and a set of allowed services for the virtual domain:

20. An electronic messaging system as recited in claim 19, wherein the state

5 of the virtual domain node is selected from the list comprising: active, inactive (or suspended), and deleted.

21. An electronic messaging system as recited in claim 20, wherein the

hierarchically organized directory is an LDAP based directory information tree (DIT)

10 that includes a plurality of directory entries each of which is associated with a higher level (parent) directory entry and wherein the directory takes the form of a segmented name space.

22. An electronic messaging system as recited in claim 21, wherein the user

15 name is segmented in such a way that the user is uniquely identified by a unique userid at a first hierarchical level and an associated domain name at a higher hierarchical level.

23. An electronic messaging system as recited in claim 22, wherein in order

for the messaging server to forward the email message to the receiving subscriber, the

20 messaging server executes a user name search operation.

24. An electronic messaging system as recited in claim 23, wherein the user

name search operation comprises:

initially resolving the user name at a highest hierarchical level and subsequently

25 at a lowest hierarchical level in such a way that when the name search operation is

Sub A' 7

executed in a multi-domain environment, the search operation is performed as if the user name was part of a flat name space.

25 An electronic messaging system as recited in claim 24, wherein the

5 messaging server further includes:

a routing table defined by the directory based upon the resolved receiving subscriber's user name that defines a path by which the email message is passed from the sending subscriber to the receiving subscriber; and

a transfer agent arranged to direct the email message from the sending subscriber

10 to the receiving subscriber as defined by the routing table.

Add B² 7